Venous access devices for the delivery of long-term chemotherapy: the CAVA three-arm RCT

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Plain English summary

The CAVA three-arm RCT

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For patients who need long-term chemotherapy delivered through a vein, there are currently three options: (1) a Hickman-type device, which is a flexible tube (central line) inserted underneath the skin on the chest into a large vein; (2) a peripherally inserted central catheter, which is a long line tube inserted into a vein in the arm and passed through a large vein in the chest; and (3) a totally implantable device, which is a small chamber (accessed externally by a needle) that sits underneath the skin, usually in the chest, and goes into a large vein. The Cancer And Venous Access (CAVA) trial compared these devices in > 1000 patients and looked at complications, quality of life, acceptability and value for money.

We found that totally implantable devices halved the risk of complications compared with the other two options (which had similar complication rates to each other). We found that patients' quality of life was similar for all three devices, although a quality-of-life measure specific to these devices showed some emotional and psychological benefits in favour of totally implantable devices.

All three devices work, although the totally implantable devices are associated with fewer complications and are less intrusive for patients. In the CAVA trial, we found that totally implantable devices are the most costly device to use, followed by the Hickman-type device, with the peripherally inserted central device being the cheapest. This is partly because of the tendency for totally implantable devices to remain in patients for a longer period of time than the other two options. The costs could potentially be reduced by training nurse-led teams to insert totally implantable devices, as already happens with the other two devices. Totally implantable devices can be considered value for money depending on how people value avoiding complications and the quality-of-life benefits for patients.

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